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OBLON, SPIVAK, MCCLELLAND MAIER & NEUSTADT, P.C. 1940 DUKE STREET ALEXANDRIA, VA 22314				
EXAMINER				
DESAL, ANISH P				
ART UNIT		PAPER NUMBER		
1794				
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Please find below and/or attached an Office communication concerning this application or proceeding.

The time period for reply, if any, is set in the attached communication.

Notice of the Office communication was sent electronically on above-indicated "Notification Date" to the following e-mail address(es):

patentdocket@oblon.com
oblonpat@oblon.com
jgardner@oblon.com

Office Action Summary

Application No.

10/521,465

Applicant(s)

IIJIMA ET AL.

Examiner

ANISH DESAI

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Period for Reply -- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) OR THIRTY (30) DAYS, WHICHEVER IS LONGER, FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133). Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☒ Responsive to communication(s) filed on 30 March 2009.
- 2a) ☒ This action is **FINAL**. 2b) ☐ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 1, 3-9 and 11-28 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 1, 3-9 and 11-28 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☐ The drawing(s) filed on _____ is/are: a) ☐ accepted or b) ☐ objected to by the Examiner.
Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
Replacement drawing sheet(s) including the correction is required if the drawing(s) is objected to. See 37 CFR 1.121(d).
- 11) ☐ The oath or declaration is objected to by the Examiner. Note the attached Office Action or form PTO-152.

Priority under 35 U.S.C. § 119

- 12) ☐ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☐ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
 2. ☐ Certified copies of the priority documents have been received in Application No. _____.
 3. ☐ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).

* See the attached detailed Office action for a list of the certified copies not received.

Attachment(s)

- 1) ☐ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☐ Information Disclosure Statement(s) (PTO-856)
- Paper No(s)/Mail Date _____

- 4) ☐ Interview Summary (PTO-413)
- Paper No(s)/Mail Date _____
- 5) ☐ Notice of Informal Patent Application
- 6) ☐ Other: _____

DETAILED ACTION

1. Applicant's arguments in response to the Office action dated 12/29/08 have been fully considered.
2. Objections to claims 27 and 28 are withdrawn in view of applicant's amendment and response.
3. All of the previously made art rejections are maintained.
4. Upon further consideration, the obviousness type double patenting rejections are withdrawn.

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 1, 3-5, 8, 9, 11-13, 16, 23, 24, 27, and 28 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (Abstract and English translation of JP 2000-338306) in view of Sautome (English translation of JP 57-174367).
6. Regarding claims 1 and 9, Kawabata discloses an antireflection film for transfer comprising a support, an antireflection layer disposed on the support, and an adhesive layer on the antireflection layer, wherein the antireflection layer comprises a high

refractive layer comprising metal oxide fine particles and the support is releasable from the antireflection layer (see abstract, 0005-0015, and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention).

7. Moreover, regarding claim 9, Kawabata discloses a low refractive index layer disposed on the support (siloxane based resin layer) and a high refractive index layer disposed on the low refractive index layer (abstract and Applicant's own submission regarding JP 2000-338306 found at paragraph 0006 of the Patent Application Publication of the presently claimed invention).

8. With respect to claims 1 and 9, the difference between the claimed invention and the prior art of Kawabata is that Kawabata is silent as to teaching the adhesive containing a curable component and a cellulose resin including an ester bond, and the high refractive index layer is impregnated with a portion of the adhesive.

9. However, Sautome discloses an adhesive composition that is produced by adding a tackifier to a polymer composition produced by using a small amount of cellulose acetate butyrate (CAB) and/or cellulose acetate propionate (CAP) to which a monomer comprised primarily of methacrylic acid ester is added (see claim 1 and page 4). Further, it is noted that Sautome discloses formation of adhesive composition (before polymerizing it) wherein the adhesive composition includes CAB and CAP and various monomers such as acrylic acid etc. (see Example 1). It is noted that Applicant

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has provided no particular composition associated with the "curable component" in the presently claimed invention other than merely requiring that the claimed invention contains "curable component". Therefore, the adhesive composition of Sautome (before polymerization) containing various monomers as set forth in for examples of Sautome is equated to "curable component".

10. The primary reference of Kawabata generally discloses that the adhesive of his invention can be formed of acrylic polymer wherein the adhesive layer is formed by coating an adhesive solution formed by diluting resins e.g. acrylic resin using water and an organic solvent on the metal oxide-coating layer (0012, page 11). However, Kawabata is silent as to teaching a particular adhesive solution. The secondary reference of Sautome provides a suitable adhesive composition solution that contains CAB or CAP in combination with a curable component.

11. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the adhesive solution of Sautome that comprises CAP or CAB in combination with a curable component as an adhesive layer in the invention of Kawabata, because Kawabata desires an adhesive coating to form his antireflection film and Sautome provides a suitable adhesive. Selection of a known material based on its suitability for its intended use establishes a *prima facie* case of obviousness.

12. As to the claim requirement of "the high refractive index layer is impregnated with a portion of the adhesive", it is reasonable to presume that said feature is necessarily present in the antireflection film of Kawabata as modified by Saotome.

13. Support for said presumption is based on the fact that antireflection films Applicant and the invention of Kawabata as modified by Saotome is formed using the same process and composition. It is respectfully submitted that Applicant applies a solution of the adhesive to the antireflection layer to impregnate the antireflection layer (high refractive index layer) with the adhesive (see claims 27 and 28). It is noted that Kawabata at page 11 paragraph 0012 and paragraph 0015 pages 14-15, discloses coating of acrylic adhesive solution onto the surface of the antireflection layer (high refractive index layer). Therefore, the aforementioned feature would have been present in the antireflection film of Kawabata as modified by Saotome. The burden is shifted to Applicant to prove it otherwise (*In re Fitzgerald*, 205 USPQ 594).

14. As to claims 5 and 13, it is noted that the Table 2 of Saotome discloses use of CAB and CAP in the amount of about 10 wt%. Regarding claim 8, paragraphs 0001 and 0002 of Kawabata relating to the transfer materials for antireflection charge controlling plates is interpreted to read on claim 8.

15. Claims 6, 7, 14, 15, 17, and 20 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Saotome (English translation of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Yoshihara et al. (US 6,376,060 B1).

16. Kawabata is silent as to teaching claims 6, 7, 14, 15, 17, and 20.

17. However, Yoshihara discloses a hardcoat film and an antireflection film comprising an antireflection layer provided on the hardcoat (column 1 lines 5-15). Additionally, Yoshihara discloses inorganic filler such as metal oxide particles having functional group that is introduced into at least a part of the inorganic filler (see column 8 lines 37-39 and Example B1). Further, Yoshihara discloses "Specific examples of preferred organic components having a polymerizable functional group...include polyfunctional acrylates...group." (column 9 lines 5-15). These passages read on a crosslinkable functional group upon irradiation with UV rays wherein the crosslinkable functional group is an unsaturated double bond as claimed.

18. It is noted that the primary reference of Kawabata discloses a high refractive index layer containing metal oxide particles. The reference of Yoshihara provides a metal oxide particles containing composition wherein the metal oxide particles are functionalized (surface-treated) with a compound having unsaturated double bond as a crosslinkable functional group.

19. Thus, it would have been obvious to one having ordinary skill in the art at the time the invention was made to use the hard coat composition of Yoshihara comprising metal oxide particles that are surface-treated with a compound having unsaturated double bond as a crosslinkable functional group, motivated by the desire to improve the strength and the flexibility of the high refractive index layer.

20. Claims 18 and 21 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Saitome (English translation of JP 57-174367) as applied to claims 1 and 9 above, and further in view of Furman et al. (US 2002/0013382A1).

21. Kawabata is silent as to teaching claims 18 and 21.

22. However, Furman discloses methods of functionalizing and functionalized metal oxide particles, and mechanically strong and transparent or translucent composites made with such particles. Further, according to Furman "The composites primarily are suitable for dental and medical restoration; however, optical resins for use in high refractive index application...and adhesive applications also are possible." (0002).

23. The metal oxide particles of Furman are functionalized (surface-treated) by silane adhesion promoters (0012) such as dimethyl ethoxy vinyl silane [equated to Applicant's vinyl group containing silane coupling agent] (0045). As metal oxide particles, Furman discloses that any metal capable of forming an amphoteric metal oxide may be used to form the metal oxide particles (0013). According to Furman "However, the hydroxyl

groups that tend to form at the surface of metal oxide particles in "protic" environments tend to make the surface of the particles hydrophilic. As a result, the metal oxide particles have difficulty being wetted or adhered to by relatively hydrophobic matrix monomers such as acrylic monomers, which are non-polar or weakly polar in nature." (0005).

24. It is noted that the high refractive index layer of primary reference of Kawabata consists of metal oxide particles in acrylic resin (see abstract of Kawabata beginning at "a metal oxide-cong. [containing] layer is formed of the transfer material essentially consists of an acrylic resin and conductive metal oxide fine particles such as ITO...high refractive index" and claim 2).

25. Therefore, it would have been obvious to add the functionalized metal oxide particles of Furman, in the high-refractive index layer of Kawabata, because such functionalized metal oxide particles can be easily wetted or adhered by acrylic resin of the high refractive index layer of Kawabata such that a mechanically strong layer can be formed.

26. Claims 19 and 22 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Saotome (English translation of JP 57-174367) and Furman et al. (US 2002/0013382A1) as applied to claims 1, 9, 18, and 21 above, and further in view of Suzuki et al. (US 5,770,306).

27. Kawabata as modified by Sautome and Furman is silent as to teaching a cured antireflection film.

28. However, Suzuki discloses an antireflection film containing ultrafine particles formed of a resin composition having excellent dispersability of ultrafine particles in a binder resin of preventing, whitening (abstract). Further, at column 8 lines 10-25, Suzuki discloses a formation of cured antireflection film coating wherein the antireflection film coating containing metal oxide fine particles (see column 6 lines 37-50) and binder is irradiated with UV rays.

29. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to irradiate the antireflection film of Kawabata as modified by Sautome and Furman using UV rays, motivated by the desire to form a cured antireflection film.

30. As to the claimed requirement of "wherein the crosslinkable functional groups of the metal oxide fine particles are cross linked with the curable component of the adhesive"; it is respectfully submitted that the antireflection film of Kawabata as modified by Sautome, Furman, and Suzuki as set forth above comprise an adhesive layer having a curable component and metal oxide fine particles having crosslinkable functional group. Further, the antireflection film of Kawabata as modified by Sautome, Furman, and Suzuki is cured. The antireflection film of Kawabata as modified by Sautome, Furman, and Suzuki is structurally and compositionally equivalent to Applicant's antireflection film. Thus, the aforementioned claim requirement would be present.

31. Claims 25 and 26 are rejected under 35 U.S.C. 103(a) as being unpatentable over Kawabata (English translation of JP 2000-338306) in view of Sautome (English translation of JP 57-174367) and Yoshihara et al. (US 6,376,060 B1) as applied to claims 1, 9, 17, and 20 above, and further in view of Suzuki et al. (US 5,770,306).

32. Kawabata as modified by Sautome and Yoshihara is silent as to teaching cured antireflection film.

33. However, Suzuki discloses an antireflection film containing ultrafine particles formed of a resin composition having excellent dispersability of ultrafine particles in a binder resin of preventing, whitening (abstract). Further, at column 8 lines 5-25, Suzuki discloses a formation of cured antireflection film coating wherein the antireflection film coating containing metal oxide fine particles (see column 6 lines 35-50) and binder is irradiated with UV rays.

34. Therefore, it would have been obvious to one having ordinary skill in the art at the time the invention was made to irradiate the antireflection film of Kawabata as modified by Sautome and Yoshihara using UV rays, motivated by the desire to form a cured antireflection film.

35. As to the claimed requirement of "wherein the crosslinkable functional groups of the metal oxide fine particles are cross linked with the curable component of the adhesive", the antireflection film of Kawabata as modified by Sautome, Yoshihara and Suzuki as set forth above comprise an adhesive layer having a curable component and metal oxide fine particles having crosslinkable functional group. Further, the

antireflection film of Kawabata as modified by Sautome, Yoshihara, and Suzuki is cured. The antireflection film of Kawabata as modified by Sautome, Yoshihara, and Suzuki is structurally and compositionally equivalent to Applicant's antireflection film. Thus, the aforementioned claim requirement would be present.

Response to Arguments

36. Applicant's arguments received on 03/30/09 have been considered but they are not found persuasive.

37. With respect to the 35 USC Section 103(a) rejections based on Kawabata (JP 2000-338306) in view of Sautome (JP 57-174367), on page 9 of 03/30/09 amendment, applicant continues to argue that "The features of claims 1 and 9 "the high refractive index layer is impregnated with a portion of the adhesive" inherently or implicitly requires the presences of voids. Voids in or among, for example, the metal oxides particles of the high refraction index layer, permit the impregnation of the film with the adhesive." Applicant further asserts that in Kawabata reference discloses metal oxide particles that are intimately mixed with the resin such as acrylic resin and therefore there are no voids present on the metal oxide particles into which the adhesive can penetrate during adhesive coating.

38. The Examiner again submits that applicant's arguments relating to the voids are not commensurate in scope with the claimed invention because the claimed invention does not require presence of voids. Even if assuming *arguendo* that applicant's assertion regarding voids is true, the Examiner submits that applicant contemplates use of binder resin to which the metal oxide particles (of high refractive index layer) are added (see 0061 of patent application publication of this application). Additionally, applicant uses the binder in the amount not exceeding 25 wt%. Likewise, Kawabata discloses use of 5 wt% (i.e. not exceeding 25wt%) of binder resin (acrylic resin) that is added to the metal oxide particles in his/her invention (0015). Additionally, applicant and Kawabata both form the antireflection film by same methods so that the adhesive impregnates the high refractive index layer. Specifically, applicant applies a solution of the adhesive onto the antireflection layer to impregnate the high refractive index layer with adhesive (see claims 27 and 28). It is noted that Kawabata at page 11 paragraph 0012 and pages 14-15 paragraph 0015, discloses coating of acrylic adhesive solution onto the surface of the antireflection layer (high refractive index layer). .

39. Therefore, the high refractive index layers of applicant and Kawabata are formed of same material and the adhesive of Kawabata is coated onto the antireflection layer in the same manner as disclosed by applicant. Moreover, the presently claimed invention provides no guidance as to what degree the adhesive is impregnated into the high refractive index layer. Therefore, absent evidence to the contrary, the high refractive index layer would necessarily be impregnated with a portion of the adhesive in the

invention of Kawabata as modified by Satome. Accordingly, applicant's arguments are not found persuasive.

40. On pages 10-11 of applicant's amendment, applicant argues that Satome does not disclose or suggest that the monomer composition from which the polymer is derived is an adhesive. Applicant asserts that the composition from which Satome obtains the adhesive is not itself an adhesive.

41. The Examiner respectfully submits that applicant's arguments are not found persuasive because applicant and Satome both disclose same adhesive. Applicant's claimed adhesive contains "a curable component" and "a cellulose resin" such as cellulose acetate butyrate or cellulose acetate propionate. Likewise, Satome's composition (before polymerization) comprises acrylic monomers such as ethyl acrylate (curable component) and cellulose resin such as cellulose acetate butyrate and cellulose acetate propionate (see Example 1 on page 17). Therefore, Satome's composition is same as that of presently **claimed** and it must be an adhesive otherwise applicant's claimed invention is incomplete. "Products of identical chemical composition can not have mutually exclusive properties." *In re Spada*, 911 F.2d 705, 709, 15 USPQ2d 1655, 1658 (Fed. Cir. 1990). Accordingly, applicant's arguments are not found persuasive.

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42. With respect to applicant's arguments on page 11 of amendment that the Office provides no legal or technically reasonable basis for applying a mixture of CAB, CAP and methacrylic acid ester to any film of Kawabata, the Examiner submits that the reasoning for combining Satome with Kawabata is set forth on page 4, section 11 and 12 of 12/29/08 Office action.

43. After reviewing applicant's arguments on page 12 of amendment that are presented in response to the Examiner's previous comments that claims 19 and 22 do not explicitly recite structural or composition requirement, the Examiner submits that he is withdrawing his comments but maintaining the rejection of claims 19 and 22 for the reasons set forth in paragraphs 26-30 above.

Conclusion

44. **THIS ACTION IS MADE FINAL.** Applicant is reminded of the extension of time policy as set forth in 37 CFR 1.136(a).

45. A shortened statutory period for reply to this final action is set to expire THREE MONTHS from the mailing date of this action. In the event a first reply is filed within TWO MONTHS of the mailing date of this final action and the advisory action is not mailed until after the end of the THREE-MONTH shortened statutory period, then the shortened statutory period will expire on the date the advisory action is mailed, and any extension fee pursuant to 37 CFR 1.136(a) will be calculated from the mailing date of the advisory action. In no event, however, will the statutory period for reply expire later than SIX MONTHS from the mailing date of this final action.

46. Any inquiry concerning this communication or earlier communications from the examiner should be directed to ANISH DESAI whose telephone number is (571)272-6467. The examiner can normally be reached on Monday-Friday, 8:00AM-4:30PM.

47. If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Callie Shosho can be reached on 571-272-1123. The fax phone number for the organization where this application or proceeding is assigned is 571-273-8300.

48. Information regarding the status of an application may be obtained from the Patent Application Information Retrieval (PAIR) system. Status information for published applications may be obtained from either Private PAIR or Public PAIR. Status information for unpublished applications is available through Private PAIR only. For more information about the PAIR system, see <http://pair-direct.uspto.gov>. Should

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you have questions on access to the Private PAIR system, contact the Electronic Business Center (EBC) at 866-217-9197 (toll-free). If you would like assistance from a USPTO Customer Service Representative or access to the automated information system, call 800-786-9199 (IN USA OR CANADA) or 571-272-1000.

/A. D./

Examiner, Art Unit 1794

/Callie E. Shosho/

Supervisory Patent Examiner, Art Unit 1794